

Bay Area Air Quality Management District

**939 Ellis Street
San Francisco, CA 94109**

**Proposed Amendments to
Regulation 2 (Permits) Rule 1 (General Requirements) and
Regulation 9 (Inorganic Gaseous Pollutants) Rule 8 (Nitrogen
Oxides and Carbon Monoxide from Stationary Internal
Combustion Engines)**

Staff Report

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STAFF REPORT

Proposed Amendments to Regulation 2 (Permits) Rule 1 (General Requirements)

Executive Summary

The proposed regulations eliminate the exemption for emergency standby engines contained in Regulation 2-1-114.2.3.

As a result, all existing emergency standby engines will be required to obtain a District permit. The permitting effort will be complete before Summer, 2002. New engines will need to meet current District standards for NO_x and particulate controls. Operators will be required to report usage to the District on an annual basis.

Operators of emergency standby engines will be informed of applicable requirements. Most of these restrictions already exist, but have not been brought to the attention of engine operators. As a result, many engine operators have relied on non-emergency use of emergency engines in order to participate in utility-sponsored curtailment programs. Some operators have purchased new diesel engines for use in such programs. These engines are substantially dirtier than alternatives, and this non-emergency use can seriously impact public health.

The proposal contains a new program whereby emergency standby engines may be temporarily converted to discretionary use, provided toxic particulate emissions are controlled. The only NO_x controls that will be required for conversions will be engine timing adjustments; offsets will be waived. The temporary conversion will end when the energy crisis is over.

Emission reductions from this proposal have not been quantified. One of the goals of this program is to collect information to create an inventory. The principal immediate benefit from this proposal will be an unquantifiable but significant reduction in public exposure to toxic diesel particulate emissions. This reduction will be achieved by increased compliance that will result when engine operators are informed of the existing restrictions on emergency standby engine use.

Purpose of These Revisions

During the summer of 2000, unprecedented demand on the region's power supply resulted in a rolling blackout in Contra Costa county, as well as several

days of Stage 3 alerts. During the winter of 2000/2001 the region experienced three weeks of Stage 3 alerts peppered with blackouts and threats of blackouts.

Many people found it necessary to operate emergency power generators.

Many other people suddenly became interested in buying emergency power generators.

A clean emergency power generator that burns diesel fuel emits more than 20 times as much NO_x as a new well-controlled power plant. NO_x is a precursor for smog.

Emergency power generators that burn diesel fuel emit diesel particulate. The California Air Resources Board has identified diesel particulate as a Toxic Air Contaminant. This contaminant has a cancer potency that results in unacceptable cancer risks from engines operated for as little as 30 hours per year.

In order to assess the impact of these new developments, the District needs to collect reliable information about the number of existing engines, their age, and their use. In order to minimize the impact of new engines, Best Available Control Technology needs to be used. In order to communicate with engine operators about new and existing applicable requirements, a comprehensive list of operators needs to be compiled and maintained.

Incorporation of these sources into the District's existing permit program will accomplish all of these goals.

Socioeconomic Impacts of Rulemaking

Section 40728.5 of the California Health and Safety Code (H&SC) requires districts to assess the socioeconomic impacts of amendments to regulations that, "...will significantly affect air quality or emissions limitations." This regulatory proposal does not fall within the scope of an amendment that significantly affects air quality or emissions limitations. The loss of exemption will not affect emissions from sources that are currently operating under historically limited hours of operation. The loss of exemption may, however, head off future improper use of these engines due to the energy crisis. Anecdotal evidence suggests that it may also end substantial current use of these engines in violation of existing requirements. It is impossible at this time to assess this impact. One of the major goals of the permit program is to gather such information.

Permitting programs generate revenue and allow for analysis and the imposition of applicable controls, administrative and monitoring requirements through permit conditions.

Operators of sources which were previously exempt from District permits will incur additional permitting costs if they are no longer exempt. This rule revision will impose an additional regulatory requirements on existing sources in the form of a record-keeping requirement.

New engines will be subject to few new requirements. Although many engines appear to qualify for the existing exemption, in fact the toxic backstop provision contained in Regulation 2-1-316 means that any new or modified engine must undergo permit review to determine its exemption status. For these sources, the proposed elimination of the exemption results in payment of a fee to cover the administrative costs of permit review, a requirement to document operation, and no other change.

Some new engines on the market may experience difficulty meeting District standards for new sources without limits on hours of operation. Engine purchasers can ensure the greatest flexibility by selecting the cleanest engines available.

Under Health and Safety Code § 40920.6, the District is required to perform an incremental cost analysis for a proposed retrofit rule. To perform this analysis, the District must (1) identify one or more control options achieving the emission reduction objectives for the proposed rule, (2) determine the cost effectiveness for each option, and (3) calculate the incremental cost effectiveness for each option. To determine incremental costs, the District must "calculate the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option."

This section of the Health and Safety Code is not applicable to the proposed amendment. The proposed amendment is not a retrofit rule. The proposed amendment will require existing exempt engines to obtain permits, but will not require additional controls. The proposed amendment will require new engines to obtain permits, and subject them to stringent control requirements, but new engines are already subject to these control requirements. New engines capable of meeting the District's NO_x, CO and TBACT standards will, in general, be more expensive than those that cannot.

Section 40727.2 to the Health and Safety Code and imposes requirements on the adoption, amendment, or repeal of air district regulations. The law requires a district to identify existing federal and district air pollution control requirements for the equipment or source type affected by the proposed change in district rules. The district must then note any differences between these existing requirements and the requirements imposed by the proposed change. Where the district proposal does not impose a new standard, make an existing standard more stringent, or impose new or more stringent administrative requirements, the district may simply note this fact and avoid additional analysis.

These proposed amendments do not impose any different standards. They do, however, impose additional administrative requirements by requiring some previously exempt sources to obtain permits.

Environmental Impacts of the Rulemaking

The District has determined that these amendments to Regulation 2, Rule 1, are exempt from provisions of the California Environmental Quality Act pursuant to State CEQA Guidelines, Section 15061, subd. (b)(3). The amendments are administrative in nature, and District staff, based on the whole administrative record on this issue, has determined with certainty that this rulemaking project will have no environmental impacts and is therefore exempt under Guidelines Section 15061, subd (b)(3). The District intends to file a Notice of Exemption pursuant to State CEQA Guidelines, Section 15062.

Statutory Findings

Pursuant to Section 40727 of the California Health and Safety Code (H&SC), regulatory amendments must meet findings of necessity, authority, clarity, consistency, non-duplication, and reference. The proposed amendments are:

- Authorized by H&SC Sections 40000, 40001, 40702, 40709 through 40714.5, 40725 through 40728, 40918, and 42300 et seq., 40 CFR Part 51, 42 USC §7410, 42 USC §7503
- Written or displayed so that its meaning can be easily understood by the persons directly affected by it;
- Consistent with other District rules, and not in conflict with state or federal law;
- Non-duplicative of other statutes, rules, or regulations; and

Conclusion

The proposed amendments have met all legal noticing requirements and have been discussed with all interested parties. District staff recommends adoption of the amendments as proposed.

Discussion of Proposal

In broad strokes, staff proposes to eliminate the existing exemption from permits for emergency standby engines. By doing so, the following benefits will be gained:

- ♦ The District will develop an inventory of engines. This can be used to assess the impacts of various regulatory and energy proposals that involve these sources.

- ◆ The District will develop a list of emergency standby engine owners. This will facilitate communication with owners, and improve participation of this group in the development of regulatory and energy proposals that affect them.
- ◆ Current widespread violations of existing District regulations affecting these sources will be curtailed, with a corresponding benefit to the public. The extent and magnitude of this benefit is impossible to quantify with current information.
- ◆ New emergency standby engines will be subject to BACT and toxics review. Emissions from these sources and the resulting impact on public health will be minimized.
- ◆ The District's future regulatory activity for this source category will be funded by affected sources.

These benefits will not be without costs, however.

- ◆ New and replacement emergency engines will be more expensive due to emission controls.
- ◆ A large fraction of the affected operators are public agencies. Any increase in the cost of replacing engines will affect capital budgets. Any increase in the costs associated with obtaining and complying with permits will affect operating budgets.
- ◆ Many engine operators are businesses that have not had previous contacts with the District. As a result, the District effort to inform and assist these businesses will be substantial.

The staff has considered these impacts in developing this proposal. This report presents regulatory and procedural proposals to minimize the undesirable impacts while accomplishing the overall goals of the program. Alternatives that were considered but not incorporated are described as well.

Programs in Other Districts

The staff proposal includes elements currently in place in other Districts in California.

South Coast Air Quality Management District:

San Diego Air Quality Management District

Monterey

Definitions

The effectiveness and clarity of any regulation requires clear and precise definitions of key terms and phrases. The following terms have new definitions:

- ◆ Emergency standby engine (9-8-230)
- ◆ Emergency Condition (9-8-231)
- ◆ Reliability-related activities (9-8-232)
- ◆ Involuntary curtailment (9-8-233)
- ◆ Essential public service (9-8-235) *(not proposed; language prepared for Board's possible use)*

Impacts of the Proposal

The proposal has several benefits, but will also impose restrictions and costs. These are discussed in detail below.

Environmental Impacts (under construction)

NO_x increases from conversion of emergency standby engines

Reductions in emissions from illegal operations

NO_x

Particulate

Regulatory/Procedural Impacts*Existing emergency standby engines*

Under the proposal, existing emergency standby engines will lose their current exemption from permits under District Rule 2-1-114. The current exemption applies to emergency standby engines that are used no more than 300 hours per year. Any engine that is **installed** before the effective date of this proposed revision will be considered to be an existing engine. Any engine that is installed on or after the effective date of this proposed revision will be considered to be a new engine. Any unpermitted existing engine larger than 250 hp which cannot meet the definition of emergency standby engine will be considered to be a new engine.

The recent energy crisis demonstrated the principal problems with the exemption. First, a hard limitation on allowable hours of operation, no matter how generous, may result in the engine being unavailable when needed. Second, considerable confusion existed concerning the actual definition of

“emergency”. This confusion persists. The proposed definition will end the uncertainty.

The staff’s proposal will allow existing emergency engines to be used as originally intended: to protect critical equipment and operations during a genuine emergency (e.g., a power outage). Engines intended to provide emergency power will be permitted to operate when power is lost.

The staff’s proposal will not allow the use of emergency standby engines to supplement utility generation (the power grid) to avoid power outages. These engines are far too dirty to be used for this purpose. The environmental impact of one typical server farm’s diesel backup is equivalent to that of a new 500 MW power plant.

Permit application: With the loss of permit exemption, operators of existing engines will be required to submit an application describing their engine and its current operation. The District has developed a streamlined application form for these engines. (Appendix I: Standby Engine Permit Application). Engines that have lost their exemption due to the regulation change will receive permit conditions based upon the requirements that qualified them for their original permit exemption: 100 hours per year of testing and reliability preparation, and unlimited hours under actual emergency conditions. Engine use at facilities that have a contract with their energy supplier that grants a reduced rate in exchange for voluntary curtailment of energy use is considered to be discretionary. The facility operator is choosing to operate these engines.

Engines that cannot meet these conditions will be treated as new sources, *because they never, in fact, qualified for the exemption*. Staff understands that some confusion over the definition of “emergency” has existed in the past (one of the main goals of the present proposal is to eliminate this confusion). As a result, the treatment of existing engines (loss of exemption vs. new source review) will be based upon the operator’s proposed *future* operation.

Staff proposes to send letters to facilities with emergency standby engines notifying them of the need for permit applications within three months of adoption of the amendments. Permit applications will be due 90 days after the notice is received. Loss of exemption permits will be processed by technicians and interns, and permits issued automatically. New source review permit applications will be reviewed by a team of permit engineers assigned to the task. The impact on routine permit processing should not be significant. The influx of permit application is planned to coincide with a reduction in the effort for initial issuance of Title V permits.

Conversion to Discretionary Use

The Staff proposal includes an option for conversion of an existing emergency standby engine to discretionary use for the duration of the emergency. If the

operator is willing to install particulate controls and meet the District's Risk Management Policy, the engine will not add-on controls nor offsets for NO_x.

Staff has evaluated the cost of retrofit NO_x controls, and has determined that, for this limited purpose, the cost of controls greatly exceeds the benefits from emission reductions. In acknowledgment of the energy emergency, staff recommend an exception to the normal District interpretation of BACT analysis as it applies to modified sources. The District has always considered BACT for a modified source to be the same as that for a new source. This is because any increase in production should occur at the cleanest sources in the Bay Area. If an existing source is being modified to increase production, it should either be brought up to standard or replaced.

Staff propose to make a very limited exception to this policy. First, the exception applies only to a very specifically defined group of sources. Second, the exception is short-lived: less than 18 months. Third, the exception is not available to sources subject to federal Prevention of Significant Deterioration (PSD) rules.

Staff also propose to exempt these sources from offset requirements. The principal justification for this is the limited duration of the program.

New Emergency Standby Engines

New engines will be subject to the District's New Source Review program. Operators will be able to choose between two modes of operation: Emergency Standby, and Discretionary use.

Emergency Standby engines will be allowed to operate for up to 100 hours per year (or fewer hours, if needed to meet the Risk Management Policy) for reliability-related activities and in anticipation of imminent emergency conditions. Operation during actual emergencies will not be restricted, nor will it be considered in the risk assessment. Engine operators will be required to install meters to measure usage, and will be required to log usage.

Any engine that cannot comply with the Emergency Standby restrictions will be treated as a discretionary engine. Annual hours of operation will be limited by permit condition, and all emissions will be included in the risk assessment. Engine operators will be required to install meters to measure usage, and will be required to log usage.

Permit application: District staff proposes to use the existing permit application procedure for new engines.

Portable Engines

Operational Impacts

Recordkeeping: Some commenters expressed concern that the requirement to document engine use during an emergency could compromise emergency response. This concern was based upon the belief that operators would need to interrupt emergency activities to record engine usage. Sewers would overflow and houses would burn while engine operators were entering fuel usage data into engine logs.

The staff proposal requires emergency engines to be equipped with usage meters that function **automatically**. If logs are properly kept during maintenance engine operation, the minimal information needed to document emergency use (starting and ending meter readings, date and nature of emergency) can be recorded at leisure after the end of the emergency.

Recordkeeping is necessary in order to provide accurate information on engine use, and to demonstrate compliance with limitations on non-emergency use of engines. Some commenters suggested continuing a usage-based exemption; implementation of that proposal would require the same recordkeeping.

Economic Impacts

Under the staff proposal, new engines will be subject to District new source review requirements (Regulation 2 Rules 1 and 2). Some of the economic implications of this are:

- ◆ New engines and replacement engines may be more expensive due to BACT control requirements. Engines will have to meet requirements for combustion control (limiting NO_x and particulate emissions). New engines that meet these requirements cost <> - <> % more than comparable new engines that do not. Used engines will probably not be able to meet District standards.
- ◆ Some engines in some locations will require catalytic filters to remove particulates (in order to meet the District's risk management criteria). Depending to some extent on engine size, this could add \$15,000 to the cost of a small engine, and as much as \$100,000 to the cost of a very large one.
- ◆ Large projects with multiple engines will be subject to District offset requirements. A 2,000 HP diesel engine, operated for 100 hours per year, will emit 1.5 TPY of NO_x. Small facilities (emissions less than 15 TPY) do not need to provide offsets. Larger facilities installing more than one engine should expect to provide their own offsets (the District currently provides offsets for facilities with emissions less than 50 TPY,

but the emission credit bank is nearly depleted). Offsets purchased on the open market may cost above \$10,000 per ton, if available at all.

The increased cost of replacement engines provides a driving force for keeping existing engines in service longer. It might also lead an operator to purchase fewer engines than might otherwise be purchased. This, in turn, might affect the reliability of existing engines and the amount of emergency power available.

The APCO recently revised the risk management policy affecting emergency standby diesel engines to address precisely this issue. The revision does two things: it ignores the toxic impacts of emergency use (for the purposes of determining the acceptability of the engine), and it allows an engine with a catalytic filter to have an impact from non-emergency use that is ten times higher than the 10-in-a-million significance level. As a result of the first revision, most new engines will be approved without catalytic filters; as a result of the second revision, an engine with a catalytic filter will almost always be approvable.

Project Alternatives

The staff proposal is not the only option available to address the goals of the project. Stakeholders have suggested alternatives to some of the elements of the proposal. Staff has incorporated many suggestions into the proposal; those that were suggested but not incorporated, and the reasons for their exclusion, are presented below.

Alternative 1: Registration program (in lieu of permit program)

The District may implement a registration program under Regulation 1-410. The differences between a registration program and a permit program are shown in the table below.

	Permit program	Registration program
Application process	Engine data; application fee	Same
Application review time	~60 days	No review.
Annual data collection	Hours of operation; hours of emergency use	Same
Annual fee	\$120	None (could be the same with a rule change)
NSR: BACT	Required (6.9 g/hphr for NOx, 0.15 gm/hphr for	none

	PM10)	
NSR: Toxics Rvw	Required	None
NSR: Offsets	Required if facility emissions > 15 TPY	None

The main difference between a permit program and a registration program for standby emergency generators is the applicability of New Source Review requirements for new engines. New source review ensures that new equipment (including replacement equipment) is the cleanest available. In addition, the new source risk management program ensures that health risks from new equipment are insignificant. The routine permit review requires between 45-60 days for District processing.

A registration program would result in avoidable additional pollution due to the use of dirtier-than-necessary engines. A registration program would allow new public exposure to unacceptable levels of toxic air pollutants. In many cases, minor revisions to the project could result in acceptable impacts. Pre-construction permit review would identify such projects.

A permit program, therefore, results in additional environmental benefits that cannot be achieved by a registration program. The additional costs associated with purchase of cleaner engines are justified by the reduced impacts on public health.

Alternative 2: Exemptions from regulatory requirements

2A: Exemptions for key essential public service

Operators of municipal water and wastewater systems suggested that engines used for essential public services merit special treatment. These are engines used by public agencies for critical public health and safety purposes (flood control, fire protection, water supply). Some of the suggested exemptions are:

- ◆ An exemption from permits for engines used for essential public services. Use a one-time registration program instead.
- ◆ An exemption from NSR for new or replacement engines in essential public service.
- ◆ An exemption from one or more specific elements of NSR (BACT, offsets, Toxics review) engines in essential public service.

Staff do not propose special treatment for essential public engines. The concerns about health impacts from existing diesel engines apply to these

engines as well. The permit regulation will not interfere with the use of these engines under actual emergency circumstances. Engines capable of complying with District BACT requirements without expensive add-on controls exist in all sizes; it is unlikely that the District's permit requirements will make engine purchase substantially more difficult.

There is thus no overriding need to treat emergency engines in essential public service any differently than any other engine.

If, however, the Board decides to provide special treatment for these sources, Staff has prepared the following definition for consideration:

- 9-8-235 Essential Public Service:** A system essential to protect public health and safety.
- 235.1 Municipal wastewater collection and treatment.
 - 235.2 Potable water supply.
 - 235.3 Transportation systems.
 - 235.4 Flood control.
 - 235.5 Police, fire, medical emergency response systems.
 - 235.6 Airport runway lights.

2B: Exemptions for voluntary curtailment

Some commenters suggested that the District should allow emergency standby engines to be used to allow facilities to reduce their demand on the utility power supply grid ("voluntary curtailment"). They suggest that this permission could be limited, for example, to apply only in situations where the ISO has called a "Stage 2" or "Stage 3" alert, or has actually begun rolling blackouts.

Staff does not support this suggested alternative. The emissions per kilowatt-hour from a diesel generator are grossly higher than those from a modern power plant. NO_x emissions are 20 times higher (or more). Toxic diesel particulate emissions can, in just a few hours, exceed the Proposition 65 significance levels. The governor has explicitly stated on many occasions that air quality is not to be compromised in the quest for solutions to the energy crisis. *Executive Order D-14-00*, 8/2/00; *Executive Order D-28-01*, 3/7/01.

The staff proposal contains a compromise proposal that will allow discretionary use of existing diesel engines for the duration of the energy emergency. Diesel engines that meet the District's risk management policy may be authorized to temporarily increase hours of operation, and operate in a discretionary mode, for the duration of the energy emergency. NO_x offsets and retrofit controls will not be required.

2C: Delay implementation until after energy crisis is "over"

At a minimum, immediate engine registration and data collection is essential for agency understanding of the impact of engine use. The fact that engine use may change after this summer is not a valid argument for delaying collection of

information. The sharp increase in engine purchases also lends urgency to implementation of clear rules regarding their emissions and conditions of use. Finally, widespread misunderstanding of the current requirements indicates that outreach and compliance assistance is necessary. The staff proposal addresses all of these issues. Delay would not.

Proposed Revisions

Require permits for Standby Engines

2-1-114 Exemption, Combustion Equipment: The following equipment is exempt from the requirements of Sections 2-1-301 and 302, only if the source does not emit pollutants other than combustion products, and those combustion products are not caused by the combustion of a pollutant generated from another source, and the source does not require permitting pursuant to Section 2-1-319.

114.2 Internal Combustion Engines and Gas Turbines:

- 2.1 Internal combustion (IC) engines and gas turbines with a maximum output rating less than or equal to 50 hp.
- 2.2 Internal combustion (IC) engines and gas turbines used solely for instructional purposes at research, teaching, or educational facilities.
- ~~2.3 Portable internal combustion engines and standby internal combustion engines and standby gas turbines meeting the following criteria:~~
 - ~~2.3.1 The engine or turbine is operated for no more than 200 hours in any calendar year, plus an additional 100 hours per calendar year for the purposes of maintenance and testing.~~
 - ~~2.3.2 The engine or turbine is not operated at a facility with a power supply contract which offers a lower rate in exchange for the power supplier's ability to curtail energy consumption with prior notice.~~
- 2.4 Any engine mounted on, within, or incorporated into any vehicle, train, ship, boat, or barge used to provide propulsion for the vehicle, train, ship, boat, or barge. Facilities which include cargo loading or unloading from cargo carriers other than motor vehicles shall include the cargo carriers as part of the source which receives or loads the cargo.
- 2.5 Any engine mounted on, within, or incorporated into any vehicle, train, ship, boat, or barge used to provide propulsion for the vehicle, train, ship, boat, or barge and which is also used to supply mechanical or electrical power to ancillary equipment (e.g., crane, drill, winch, etc.) which is affixed to or is a part of the vehicle, train, ship, boat, or barge. Facilities which include cargo loading or unloading from cargo carriers other than motor vehicles shall include the cargo carriers as part of the source which receives or loads the cargo.

(Adopted 10/19/83; Amended 7/17/91; 6/7/95; 5/17/00)

Staff propose elimination of 2-1-114.2.3, which is the exemption for standby emergency generators and portable engines.

Based upon discussions between staff and engine operators, it has become clear that the District's emergency standby generator exemption has been greatly misunderstood and, as a result, numerous standby generators have operated under conditions which invalidate their exempt status. The potential health impact due to emissions from improperly operated engines have recently become extremely important, as the utility deregulation program has created big economic incentives to operate engines under non-emergency conditions.

Additionally, the existing language has been interpreted to allow the operation of a very large (100 MW) and dirty (10 to 20 times more pollution than from a power plant equipped with BACT) power plant, without any District permit review.

The principal justification for the historical exemption of these engines was that their extremely limited operation resulted in a relatively small impact, and it was therefore not worth the expense and effort to regulate these engines.

The energy crisis has changed circumstances so that the assumption of insignificant engine use is no longer valid. Furthermore, anticipation of further outages has resulted in a considerable increase in the number of engines. Finally, the toxicity of emissions from these engines is now believed to be considerably higher than previous estimates.

For all of these reasons, it is important that the District be aware of the location and use of these engines; that operators be informed of the legal limits on their use; and that new engines be as clean as possible. While the energy crisis lends urgency to this effort, the toxicity of engine emissions means that even the historically limited use of these engines poses a health risk that merits oversight.

Staff propose to require permits for all standby engines, new and existing, larger than 50 hp (except for engines registered under the CARB portable equipment registration program). This requirement is consistent with current permit requirements in the other major California Districts. Additionally, all new diesel engines will be subject to the District's risk management program. This program allows for three tiers of emission control:

1. The project is acceptable if the annual emissions would result in an incremental cancer risk equal to or less than one in a million.
2. The project is acceptable if the engine emits less than 0.15 gm/bhp-hr and the annual emissions would result in an incremental cancer risk equal to or less than ten in a million.
3. The project is acceptable if the engine emits less than 0.15 gm/bhp-hr, followed by a catalyst-based diesel particulate filter, and the annual

emissions would result in an incremental cancer risk equal to or less than one hundred in a million.

The risk assessment considers only the impact of emissions during engine testing and reliability operations. Emissions occurring during emergencies are not included.

Existing engines will, as a result, become registered with the District. We will be able to inform standby engine operators of the conditions under which they can legally operate their engines. Those who wish to operate their engines for purposes other than emergency standby power production will be informed of the requirements for doing so.

New Definitions

9-8-230 Emergency Standby Engine: An engine that is only operated:

- 230.1 To mitigate emergency conditions; or
- 230.2 For reliability-related activities.

Emergency standby engines are defined as engines that are operated under emergency conditions (defined in 9-8-231) and reliability related activities (defined in 9-8-302).

9-8-231 Emergency conditions: Any of the following:

- 231.1 Flood abatement, and control or avoidance of sewer overflows.
- 231.2 Fire suppression and control.
- 231.3 Mechanical or other failure of a critical motor.
- 231.4 Failure of regular power supply.
- 231.5 Involuntary curtailment of power supply.
- 231.6 Any other reasonably unforeseen event that threatens public health and safety and that the APCO determines requires the immediate temporary operation of standby engines.

Emergency conditions are defined. The list includes the emergency conditions identified by commenters, and by definitions in the South Coast AQMD and San Diego APCD rules. There are other definitions of “emergency” (for example, the definition from the California Code of Regulations Art V chap 9 div 3 Title XIII (Motor Vehicles). Staff has considered and rejected definitions that are open-ended and vague. Instead, the proposed definition allows the APCO to make, on a case-by-case basis, determinations that other circumstances justify use of an emergency standby engine.

9-8-232 Reliability-related activities: Any of the following:

- 232.1 Reliability tests of the emergency standby engine.
- 232.2 Operation of an emergency standby engine during maintenance of a critical motor.
- 232.3 Operation of an emergency standby engine after notification by the utility that involuntary curtailment is imminent.

The proposal allows the use of emergency standby engines for up to 100 combined hours for testing and “reliability-related activities.” This allows the operator to start the engine up in advance of a blackout to avoid momentary interruption of power (which can have substantial impact on some manufacturing processes). The proposal does not, however, provide enough hours to allow a facility to rely upon emergency standby generators as a basis for participation in curtailment programs such as PG&E’s Optional Binding Mandatory Curtailment (OBMC) program. Engines used to support such participation must be permitted for discretionary use.

9-8-233 Involuntary Curtailment: Curtailment by the utility of power supply to the facility under the following conditions:

233.1 The utility has been instructed by the Independent System Operator (ISO) to shed firm load.

233.2 The utility has shed firm load.

Under some circumstances, the utility may not cut all power to the facility, but may instead curtail supply. If the utility does so while, at the same time, shedding firm load, the facility operator may operate emergency standby engines.

EXAMPLE: The facility has an arrangement with the utility. At the utility’s request, the facility will reduce its power consumption in 5% increments, to a maximum of 15%. In exchange, the utility will guarantee that the facility will never be subjected to rolling blackouts. The facility can achieve reductions of up to 10% by conservation, but must either reduce production or fire engines to meet the 15% target. If the utility calls upon the facility to meet its commitment for 15% reduction, but has not yet shed firm load (blackouts or curtailment at facilities without reduction agreements), the facility’s use emergency standby engines to continue production does not count as “involuntary curtailment.” In that case, any use of engines counts towards the 100 hours of allowable use. Once the utility begins to shed firm load elsewhere in the system, however, the use of the engines qualifies as involuntary curtailment.

If, on the other hand, the utility’s curtailment strategy is to call upon the last 5% reduction at the same time as initiating rolling blackouts, **the facility MAY use emergency standby generators** to continue production.

9-8-234 Failure of Regular Power Supply. Any interruption of regular power supply due to circumstances beyond the reasonable control of the operator, except for involuntary curtailment.

Involuntary curtailment is not considered to be a failure of the regular power supply because, under certain circumstances, it may be invited by the facility (by contract with the utility).

Examples of the various categories of power outage are shown below.

Failure of Regular Power Supply (no limit to use of emergency engine)

- Downed power line

Involuntary Curtailment (no limit to use of emergency engine)

- Rolling blackout affecting facility
- Response to utility request under OBMC **once rolling blackouts are initiated elsewhere in utility service area.**

Reliability-related operation & Testing (counts towards 100 hours)

- Testing
- Operation of engine during Stage 2 or 3 alert
- Response to ISO request to reduce power use
- Response to utility request under OBMC **before rolling blackouts are initiated elsewhere in utility service area.**

Discretionary use (not allowed for emergency standby engines)

- Operation of engine in exchange for economic incentive.
- Except for testing, operation of engine during Stage 1 alert.

New standards

9-8-330 Emergency Standby Engines, Hours of Operation: Operation of an emergency standby engine shall be restricted to the following:

330.1 Unlimited hours of operation while mitigating emergency conditions.

330.2 The lesser of:

330.2.1 A total of 100 hours of operation per calendar year for reliability-related activities.

330.2.2 Any limitation on hours of operation contained in a permit to operate issued pursuant to Regulation 2-1-302.

Existing emergency standby engines that are currently exempt must continue to meet the definition of emergency standby, or be treated as a modified source. The standard limits discretionary use to 100 hours per year of reliability-related activities (newly defined in 9-8-232), and allows use during emergencies for as long as actually required.

9-8-330 Emergency Standby Engines, Conversion: This section will expire on January 1, 2003, unless repealed earlier. An emergency standby engine may be temporarily converted to discretionary use, provided the following criteria are met. Due to the temporary nature of the conversion, engine conversions under this Section are exempt from BACT (Regulation 2-2-301) and offsets (Regulation 2-2-302):

330.1 The engine is an internal combustion engine.

330.2 The increased emissions from the modified engine do not trigger federal Prevention of Significant Deterioration requirements.

- 330.3 The engine's timing has been adjusted to minimize NOx emissions. Timing shall not be adjusted to such an extent as to adversely affect particulate emissions.
- 330.4 After conversion, the engine will meet the BAAQMD Risk Management Policy for Diesel Engines. The converted engine will be subject to a permit condition limiting total hours (including hours of operation under emergency conditions).
- 330.5 The engine shall be restored to emergency standby use, or retired, on or before the date that this section is repealed.

This newly proposed section allows an engine operator to temporarily use a standby emergency engine for purposes other than emergency standby. If the operator is willing to control particulate emissions from an existing diesel engine to meet District Risk Management criteria, the engine may be used for non-emergency purposes. The ability to use the engine in this way will expire when the emergency crisis ends. The engine will be excused from both offsets and retrofit controls for NO_x.

New monitoring requirements

- 9-8-530 Emergency Standby Engines, Monitoring and Recordkeeping:** Each emergency standby engine shall be equipped with a non-resettable totalizing meter that measures hours of operation. All records shall be kept for at least two years, and shall be available for inspection by District staff upon request. The operator shall keep a monthly log of usage that shall indicate the following:
- 530.1 Hours of operation (total)
- 530.2 Hours of operation (emergency)
- 530.3 For each emergency, the nature of the emergency condition.

The main purpose of these revisions is to gather information about engine use. The proposed recordkeeping requirements are similar to those required in other California Districts.

Response to Comments

Comment letters from Wastewater Treatment Facilities

The following wastewater treatment facilities submitted a single comment letter (two versions):

Dublin San Ramon Services District
East Bay Dischargers Authority
East Bay Municipal Utility District
Fairfield-Suisun Sewer District
City of Millbrae
North San Mateo County Sanitation District
City of Palo Alto
San Francisco International Airport
San Francisco Public Utilities Commission

City of San Jose
City of Santa Rosa
South Bayside System Authority
West County Wastewater District

Comment: Definitions of “emergency” and “key essential public service” should be included.

See 9-8-231 for definition of “emergency conditions.” A definition (9-8-234) of “essential public service” is included in the discussion of alternatives (staff does not propose adopting this language because staff does not recommend special treatment for these engines). This definition is presented in case the Board of Directors decides to treat these engines differently.

Comment: Standby engines for key essential public service should be exempt from permits.

We disagree. The only valid policy argument supporting this suggestion is that the increased cost of controls for new engines would result in purchase of fewer engines than are needed to ensure safety (or, alternatively, retention of older engines beyond a reliable age). This issue is discussed in the section on IMPACTS.

Comment: District should consider a registration program similar to San Diego Air Pollution Control District Rule 12.

This proposal would not accomplish all of the goals of the staff proposal, and would require substantial new District procedures. The District is not able to implement such procedures at this time. See the discussion in ALTERNATIVES.

Comment: New and replacement emergency s/b engines <720 hours/year should not trigger BACT, NSR, offsets, risk management.

This would not achieve all of the benefits of the staff proposal. See discussion in ALTERNATIVES.

Comment: Emission at pump stations should not count towards Title V totals.

They don’t, unless the pump station is onsite.

Comment: Regulatory & financial burden of permit program should be fully documented.

See discussion under IMPACTS.

What are the documentation requirements?

1. *Engine data (initial application)*
2. *Annual update (log data: # hours operation, emergency)*

What is the cost of retrofits?

Installation of meter to measure hour of operation: \$<> per engine.

What are the added costs for normal replacements?

Cost of purchase of BACT-compliant engine over dirty diesel: <> % (range)

Cost of catalytic filter (if required): \$<> per engine.

We expect less than 10% of new engines will require filters.

Will risk management requirements prevent siting of multiple engines?

No. The recent liberalization of risk management criteria for these engines ensures that an application for a collection of well-controlled engines will be approvable.

Comment: Unlimited use of engines for voluntary power use curtailment should be allowed.

This is a very bad idea. The District supports curtailment. Curtailment means reduction of energy USE. The District does not support use of dirty diesels to supplement power supplies. See the discussion under ENERGY.

Comment: The permit requirement will not improve air quality or reduce air pollution. Therefore there is no gain or benefit to public from permit requirement.

The permit requirement ensures that new engines are as clean as reasonably possible. The permit requirement ensures that operators will not inadvertently believe that firing their dirty diesels to help avert blackouts is appropriate or allowed. The permit requirement ensures that all engine operators are treated fairly and consistently. The new definitions and monitoring requirements in Regulation 9-8 will also contribute towards improved communication.

Comment: Recordkeeping requirement is unnecessary and unrealistic. Requiring recordkeeping for essential public services will slow emergency response. This could lead to sanitary sewer overflows or fire suppression water shortages.

The recordkeeping requirement will not affect emergency response in any way. The information required is simple and can be documented after the emergency is over.

Comment: Voluntary curtailment in response to Governor's plea should not be penalized.

There may be a misunderstanding about the Governor's Executive Orders and requests. First, the governor has not, to date, authorized violation of any air pollution laws or regulations pursuant

to his authority under the state of emergency. Second, the use of emergency engines in non-emergency situations is NOT curtailment. Curtailment is a reduction in use, not a substitution of one power source for another. The District will inform permit holders if the District's regulations are changed, suspended, or otherwise altered by State law (including Executive Orders).

- Comment: District should delay implementation until after the energy crisis is over.
Staff respectfully disagrees. There is anecdotal evidence of widespread non-compliance with existing standards that must be addressed as soon as possible. Some of the proposed solutions to the energy crisis will result in significant public exposure to toxic air contaminants. Many businesses are considering participation in ISO- and utility-sponsored demand reduction programs and are basing their decision, in part, upon the belief that use of diesel engines is allowed.
- Comment: The discussion should be expanded to cover portable IC engines and standby gas turbines.
- Comment: Are TBACT-compliant engines available in all sizes?
Yes. CARB-certified engines are available at 200 bhp and greater. EPA certified engines are available in smaller sizes.
- Comment: Evaluation of standby engines should be different than that of other engines:
1. BACT should be different
The merits of the NSR core policy that new equipment should be the cleanest available has been discussed at length elsewhere. In recognition of the urgency of the energy system, and in anticipation of its temporary nature, the District has proposed special treatment of existing diesel standby engines that are converted to non-emergency use. Existing engines may be permitted for non-emergency use for the duration of the emergency if particulate emissions are controlled using a particulate filter. The District has evaluated BACT for NO_x such engines on the basis of an incremental cost effectiveness evaluation. Staff has found that, under these conditions, the cost of NO_x control retrofits will be prohibitive, and therefore not required.
 2. Offsets & Toxics impact should be based on expected hours of operation instead of actual or max
The District recently revised its risk management policy as applied to emergency standby engines. The toxics screen is now based on testing emissions rather than actual emissions.

- Comment: Many POTWs have been asked by the Governor and the ISO to curtail their energy use in order to ease the strain on the state power grid.
- Comment: Anything that prevents blackouts should be encouraged. The harm resulting from blackouts greatly exceeds any potential harm from excess air pollution. Use of emergency standby engines to reduce strain on the grid are proactive and benefit the public by preventing emergencies caused by power outages.
Involuntary curtailment need not create emergencies. Indiscriminate curtailment can create emergencies. Staff believes that any harm attributable to blackouts can be eliminated through appropriate planning by the utilities and the ISO to target blackouts so that emergencies are avoided. Therefore, staff does not believe that it is necessary for the District to voluntarily suspend its regulations in response to this situation.
The utilities have taken preliminary steps to prevent harm due to blackouts by sheltering critical public services (hospitals, fire departments, and police) from rolling blackouts. A great deal more can be done.
For most users, an unexpected blackout of short duration is an inconvenience. For some, it can be economically disastrous, with warning, however, a graceful shutdown can be achieved that prevents wasted production. The remaining few for when even a forewarned blackout could prove disastrous, operation exist within the current system. For example, in the short term they can be exempted from rolling blackouts; in the medium term, clean peaker turbines can be installed; in the long term, medium to large power consumers can install clean, dedicated, local power production. This "distributed generation" concept is receiving more and more support, as an equitable way of matching the burdens of power production with the benefits of power consumption.

Comment letter from Bay Area Air Toxics Group (1/31/01)

- Comment: Define "emergency" and "key essential public service" as follows:

Emergency: The actual or threatened existence of conditions of disaster or extreme peril to the provision of essential public services and public safety that are beyond the control of the engine or equipment unit operator, its officers, employees, and contractors, and that require the immediate temporary operation of standby engines or equipment units to help alleviate the threat to public health and safety.

Key Essential Public Service: Engines or equipment necessary to maintain the operation of systems essential to public health and

safety, such as power, municipal wastewater, water, transportation, transmission or distribution systems.

The suggested definitions are too broad. They come from SCAQMD Rule 118, which allows the APCO to selectively suspend individual SCAQMD regulation during an emergency. They are not appropriate for use/interpretation by engine operations.

Comment: Exempt new and existing emergency standby engines operated by key essential public services from permits.
See responses to previous letter.

Comment: Consider Regulation 1 registration program instead of Reg 2 permit program (similar to SDCAPCD Rule 12).
See responses to previous letter.

Comment: Exempt replacement engines from NSR, BACT, offsets, risk management.
See responses to previous letter.

Comment: Use of emergency standby engines for voluntary curtailment activities should not count against a facility's discretionary operation hours.
See responses to previous letter.

Comment: Emissions at pump stations should not count against a facility for Title V inventories.
See responses to previous letter.

Comment: Permit and NSR requirements for emergency standby engines would cause conflicts with the RWQCB over siting of emergency standby engines.
We are unaware of any such conflicts.

Comment letter from Contra Costa Water District (1/26/01)

Comment: Essential public services should be exempt from permits.
See responses to previous letter.

Comment: There is no gain or benefit to the public due to issuance of permits.
See discussion under IMPACTS.

Comment: Permitting of existing sources will hinder facility's ability to provide the general public with water. Documentation of operations during emergencies will be difficult.
No hypothetical situation has been suggested where this would be true.

Comment: It will be difficult to ensure compliance with permit conditions for equipment loaned to other agencies.
Equipment sharing arrangements can be documented to avoid innocent error. Nothing can be done to ensure compliance where good faith is absent.

Comment: NSR requirements will discourage purchase of new and replacement equipment.
This may be true. Staff believe that the additional costs are justified. See the discussion in IMPACTS.

Comment letter from Pacific Gas & Electric (1/31/01)

Comment: The District should not restrict the operation of engines operating within 1000 of a school boundary.
This limitation is required by state law, which requires notification before operating a source that emits toxics within 1000 feet of a school. Portable sources can be moved to such a location after obtaining a site-specific permit, following notification.

Comment: The district should simplify application forms and allow spreadsheet submittal to for operators of multiple engines.
Staff agrees. See Appendix I.

Comment letter from Pacific Gas & Electric (2/2/01)

Comment: The District should postpone elimination of the exemption until after Summer 2001.
See discussion under alternatives

Comment: The District should pursue a registration program rather than a permit program.
See discussion under alternatives

Comment: A clear definition of what constitutes "passing the District's risk screening analysis" means is needed
Staff concurs. See discussion under Proposed Revisions.

Comment letter from Silicon Valley Manufacturing Group (1/31/01)

Comment: The District should pursue a one-time registration program rather than a permit program.
See response to prior letters

Comment: Issuance of permit will change the status of the engines under Title V.
This is not entirely correct. Permit issuance per se does not affect

the emissions from the engines. Deletion of the 200 hour limit, however, will eliminate an enforceable limit restricting emissions and the engines "potential to emit" (used to determine Title V applicability) will be presumed to be 500 hours of operation. The operator can control this effect, however, by voluntarily accepting operating limits.

Comment: The current TBACT levels are not achievable in all sizes of engines.
Not correct. See Table I.

Comment: Replacement of existing engines should not trigger new source review.
See response to previous letter.

Comment: Evaluation of toxic impacts should be based upon historic or expected levels, not maximum permitted levels.
RM policy has been charged to base toxic risks on testing and reliability operation, emergency is not considered.

Comment: The District should compare emissions from standby engines with emissions from other stationary and mobile diesel engines.
Staff concurs. This will be one use to which collected data will be put.

Comment: The District should compare emissions from response to ISO requests for non-curtailment use of these engines to avoid curtailments versus anticipated emissions from generators during a blackout.
Staff does not have data on engine use during rolling blackouts. For example, we cannot say if, for every 100 MW of blackout; there are 5 or 45 MW of generator use. We expect it to be at the lower end. We can, however, say with confidence that use of 100 MW of back up generators is needed to avoid 100 MW of blackout. It is therefore clear that engine pollution from blackout avoidance is greater than engine pollution from blackouts. Of greater concern is the problem of emissions due to process upsets caused by sudden blackouts. Competent system management, and adequate pre-blackout notification procedures, by the ISO and utilities should minimize this problem.

Comment: Is there going to be a compliance advisory regarding the monitor maintenance requirements?
Yes. Training will be provided to the inspectors, and a compliance advisory will be distributed. It will be posted on our website, and distributed to Permit Assistance Centers

- Comment: Firewater needs to be added as an emergency use.
Staff concurs. See 9-8-231.2
- Comment: Add “and overflows” to flooding emergency conditions.
Staff concurs. See 9-8-231.1
- Comment: Are natural gas engines IC engines? How are they affected?
Yes. They are also subject to the regulation and loss of exemption.
- Comment: Definition of emergency is contained Art V chap 9 div 3 Title XIII (Motor Vehicles).

“(f) Emergency means any situation arising from sudden and reasonably unforeseen natural disaster such as earthquake, flood, fire, or other acts of God, or other unforeseen events beyond the control of the portable engine or equipment unit operator, its officers, employees, and contractors that threatens public health and safety and that requires the immediate temporary operation of portable engines or equipment units to help alleviate the threat to public health and safety.”

Water folks are concerned about pump station & water distribution failures.

The principal problem with this definition is that it is simultaneously too broad and too restrictive. The scope of covered events is too broad; the restriction on “unforeseen events” would exclude the current all-too-foreseeable energy supply disruptions. Key concepts from this definition have been included in the Staff proposal.

- Comment: What will the cost of permit fees be?
\$120/year/engine. See Regulation 3 Schedule B.
- Comment: What about Title V permit fees?
\$140/source/year at Title V facilities. See Regulation 3 Schedule P.
- Comment: Will source tests be required for new engines?
Only for engines that are not certified by CARB (or EPA for engines <200HP).
- Comment: What will the permit process be?
See discussion under Regulation IMPACTS
- Comment: Existing source permit program should be spread out over time.
Staff will balance urgent need for communication with liability of resources for permit processing.
- Comment: Create a portable engine process.
Process already exists.

- Comment: What implications would converting diesel engines to natural gas have?
- Comment: Consider exemption for key essential public service engines. (exempt from BACT; exempt from permits)
See response to comment letters and discussion under ALTERNATIVES
- Comment: Consider Regulation 1 registration program instead of Reg 2 permit program.
See response to comment letters and discussion under ALTERNATIVES
- Comment: Consider SDAPCD Emergency Standby requirements relative to FAA-required airport
- Comment: How will this affect engines used for non-firm loads?
No effect. Engines used for non-firm loads have NEVER been exempt. Future use of engines in this way will require NSR permit.
- Comment: Emergency pumping of fuel from diesel tanks into buses when power is out.
This has been added to definition of "essential public service." 9-8-235.3
- Comment: Exempt emergency standby for essential public services from risk management requirements.
See discussion under "ALTERNATIVES".
- Comment: Will existing engines be subject to District Toxics NSR?
Not if they meet definition of Emergency Standby Generators.
- Comment: Does this affect engines for cranes, loaders, etc.?
No, these engines are considered to be motor vehicles.
- Comment: How does this affect portable engines? Portable compressors?
Portable engines that are not registered by ARB are subject to exactly the same requirements as non-portable engines. ARB has indicated that portable engines that are registered as emergency standby engines under its program may be used in the event of rolling blackouts to generate emergency power at facilities that are experiencing (or shortly expected to experience) a blackout. Michael P. Kenney, letter to Air Pollution Control Officers, 2/21/01.
- Comment: Would same operational limitations apply to engine fuel conversions?

- Comment: How do hours count towards engines that are shared by more than one agency?
Yes, since the only reliability testing hours are limited, this should not be a problem.
- Comment: Retrofit technology does not exist that will
Retrofits are not required.
- Comment: Does the District have adequate resources to process 10,000 new applications?
Yes.
- Comment: How will the applications deal with operators with many, many engines? Spreadsheets? Separate applications for each source?
Spreadsheets. See appendix I
- Comment: Many POTWs manage remotely located engines. Will each of these engines have its own site #; how will the emissions be reflected in plant totals for cumulative increase, Title V, offsets, etc.
Treatment of offsite engines for Title V is governed by definition of "facility".
- Comment: Who is responsible for having a permit for a rental unit? Who is responsible for permits for engines brought onsite by contractors?
- Comment: Will permitting current engines affect Title V permits?
No. Engine emissions are currently included in Title V totals.
- Comment: What is the difference between registration and permitting?
See discussion under "Alternatives".
- Comment: How will engines be treated differently (based on date of installation)
- Comment: What requirements will apply to new engines?
NSR: BACT, Offsets, Risk Management.
- Comment: Does use of engines for voluntary curtailment count towards 100 hours
Yes.
- Comment: CARB certifications indicate that use of California diesel will reduce particulate emissions. Will this be considered?
Yes.
- Comment: What modifications of existing engine will result in the engine being subject to NSR?
Use of an engine beyond the ESBE definition. Moving non-

portable engine to new site. (not some facility). Increasing emissions if already permitted.

- Comment: Are permits required for engines subject to ISO curtailment agreements?
Yes.
- Comment: What are the procedures for a site-specific risk assessment?
See appendix 2 (RA page from website)
- Comment: Will the 5 TPY limit trigger NSR for existing engines?
NO.
- Comment: What are the rules for portable engines?
Some as for stationary engines except risk management rule is more complicated.
- Comment: Is modification of air/fuel ratio a change that triggers NSR review?
If it increases emissions of any pollutant beyond already permitted levels. Yes.
- Comment: Is 5 TPY limit per pollutant or total?
Per pollutant.
- Comment: If a facility provides offsets for max usage, but never experiences worst-case outages, are the offsets gone forever?
No. See Reg. 2-2-605.4 for applicable rules.
- Comment: Would the District accept CARB certification for risk screening?
Yes. In fact, we require it.
- Comment: As engines have been recertified for different uses, CARB has not updated executive order letters to reflect emissions for these uses.
Staff will work with ARB to minimize this problem.
- Comment: If you lower particulates to meet TBACT, NO_x goes up. If engine mfr uses combustion controls to meet NO_x, and filter to meet particulate, what testing will be required? Will we assume 70% reduction?
We will assume that a properly-designed particulate filter will achieve 70% control. We will continue to work with ARB to validate this assumption.

ATTENDEES AT THE 1/19/01 WORKSHOP

Name	Company/Agency
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Name	Company/Agency
Jeff Palmes	Able EW
Mallory Nestor	AC Transit
Scott Nixon	Agilent Technologies
Jacqueline Kepke	BAAT Group
Jay Witherspoon	BAAT Group
B.P. Baleham	BART
Anne-Marie Bakker	Berlex Biosciences
Will Uriytt	CAL DHS
Lisa Carter	California Diesel and Power
John Mariand	Camp Dresser & Mckee
Teri Peterson	Cargill
Terry Liearraga	Chevron
Alex Stiem	Chevron
David Belk	Chevron
Sam Saito	Chevron
Hensen Rahmgren	Chevron
David Potten	Chevron Energy Solution
Edwards Alegrie	Chevron Energy Solutions
George Horn	Chevron Real Estate Management
Scott Edwards	Chevron USA
Damian Davis	City of S.F. – Airport
John Griffer	City of San Jose
Steve Richardson	Clorox Co.
Dave Omuto	Contra Costa Water District
John Boro	Cremun West
John McWilliams	CUMMINS West, Inc.
Richand MacArthur	CUMMINS West, Inc.
Susan Suzoci	EBMUD
John Schrdeter	EBMUD
Jay Raggid	Electric Test Inc.
Mike Smylie	ENVIRON
Mike Schuttz	ENVIRON
K. Wheeler	Equilon Refining
Greg Tonkin	FLCO Electronics
Brad Meyers	Fremont Properties

Name	Company/Agency
Lee Cover	Hanson Permanente Cement
Anna Payne	Hewlett-Packard
Hugh Manini	IBM Corporation
Arman Nikfar	Intel
Kraig Kurucz	INTEL Corp
Jim Christy	Kasima Construct
Lochlin Caffey	Keller Lawton Landfill
Dave Armstrong	LLNL
Kristen Korbus	Lockheed Martin
Charles Wagenselle	Mid-Peninsula Water
Michael Anderson	Mid-Peninsula Water
Tim Johnson	MQ Power Corp.
Bob Neal	Owens-Brockway Glass Containers
Bill Lutz	Peterson Power
Tysen Earhant	Peterson Power
Ted Holcombe	PG&E
Tim Leong	Port of Oakland
Gail Staba	Port of Oakland
Roya Bocorgne	Pratt & Whitney
Stephen Gomez	Rochr Bioscience
John Brown	Rosendim Electric
Robert Holland	Sandia National Laboratories
Linvs Farias	SBC Services
Ken Kaufman	SBSA
Karl Lany	SCEC
Ahmad Houshmand	SCVWD
Randall Smith	SF PUC
Butch Byers	SLAC
Janet Melander	Sonoma County Water
Mary Lavin	Sonoma Developmental Center
Jean Janus	SSI
Craig Barny	Stanford
Leroy Sims	Stewart & Steven Sev.
Steve Marenzana	U.C. Berkeley
Greg Haet	U.C. Berkeley

Name	Company/Agency
Dennis Moulton	United Airlines
Ran Matheson	Vallejo Sanitation
Robt Suzuki	VTA
Cris Logia	Water Pollution Control Division
Mike Jackson	Wells Fargo NCOC

Appendix I: Standby Engine Permit Application

BAY AREA AIR QUALITY MANAGEMENT DISTRICT**939 Ellis Street . . . San Francisco, CA 94109. . . (415) 749-4990**

1.	(If unknown, leave blank) Plant No:
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Source Number	Engine Make,	Engine Model,	Engine Year	Horsepower	Requested hours of operation		Emission Factors (District use only) gm/hp-hr				
					Testing	Emergencies	Particulate	Organic	NOx	SO2	CO

Person completing this
form:

Date
: